

USDA-NRCS Agency Report
December 8th, 2009
USDA Imagery Meeting

Anthony Kimmet
USDA-NRCS

Topics

- NRCS Funding Priorities and Acquisitions for FY 2009-2010
- Orthoimagery Status
 - NAIP 2008-2009
 - Alaska
 - Puerto Rico
 - Hawaii/Pac Basin

Dorsey and I would like to welcome

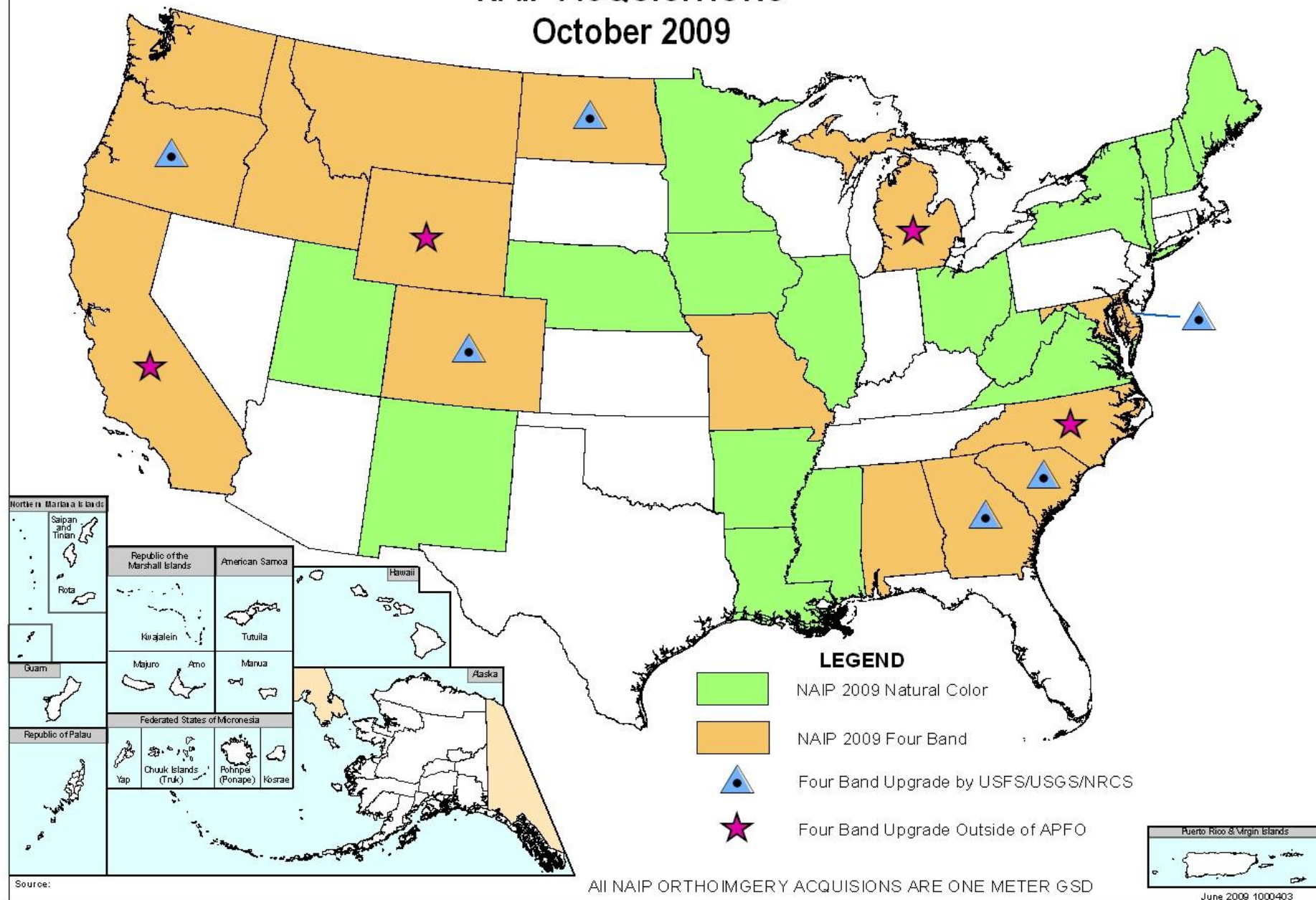
Dan Good, Geospatial Leader for NRCS

to the USDA Imagery Meeting

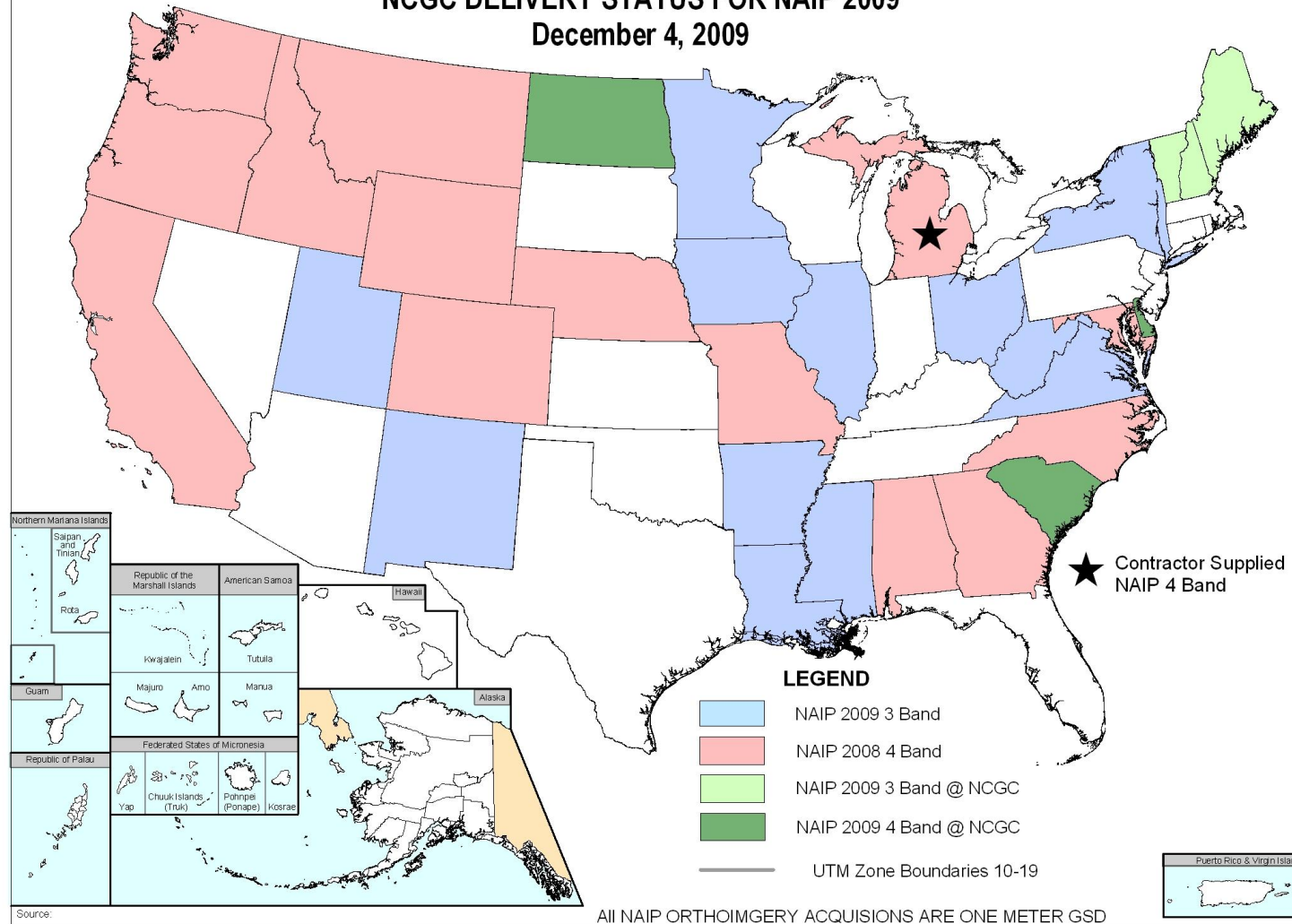
NRCS 2009 Orthoimagery Priorities and Acquisitions

NAIP ACQUISITIONS

October 2009



NCGC DELIVERY STATUS FOR NAIP 2009 December 4, 2009

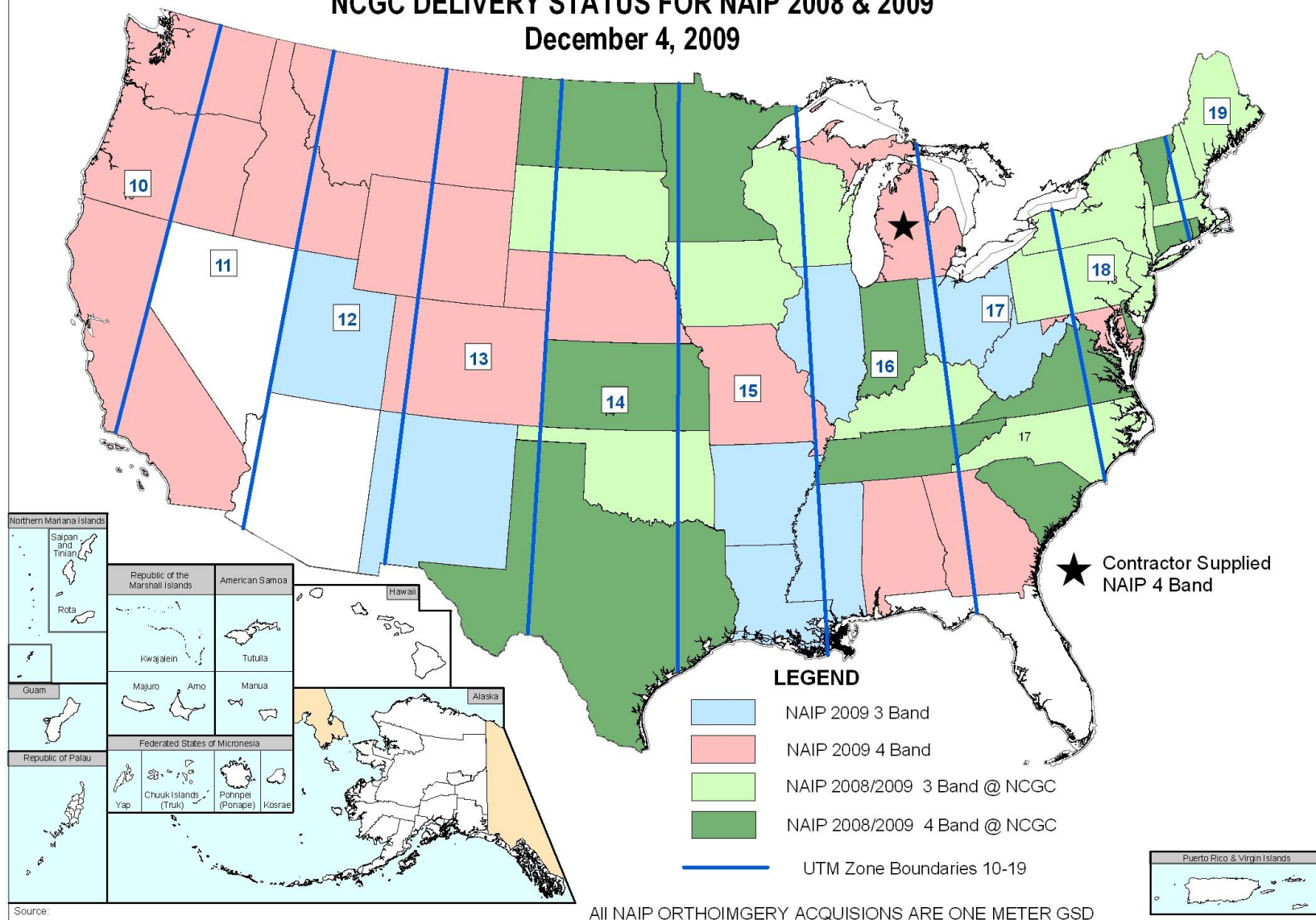


- Kent told NDOP last May, 2009 that NAIP partners would receive full resolution GeoTIFF sooner for NAIP 2009 than NAIP 2008. This is true! So, far we have received six states of NAIP 2009 as of 12/04/2009.

- NRCS would like to extend appreciation to APFO or the faster QA\QC on new NAIP Orthoimagery!

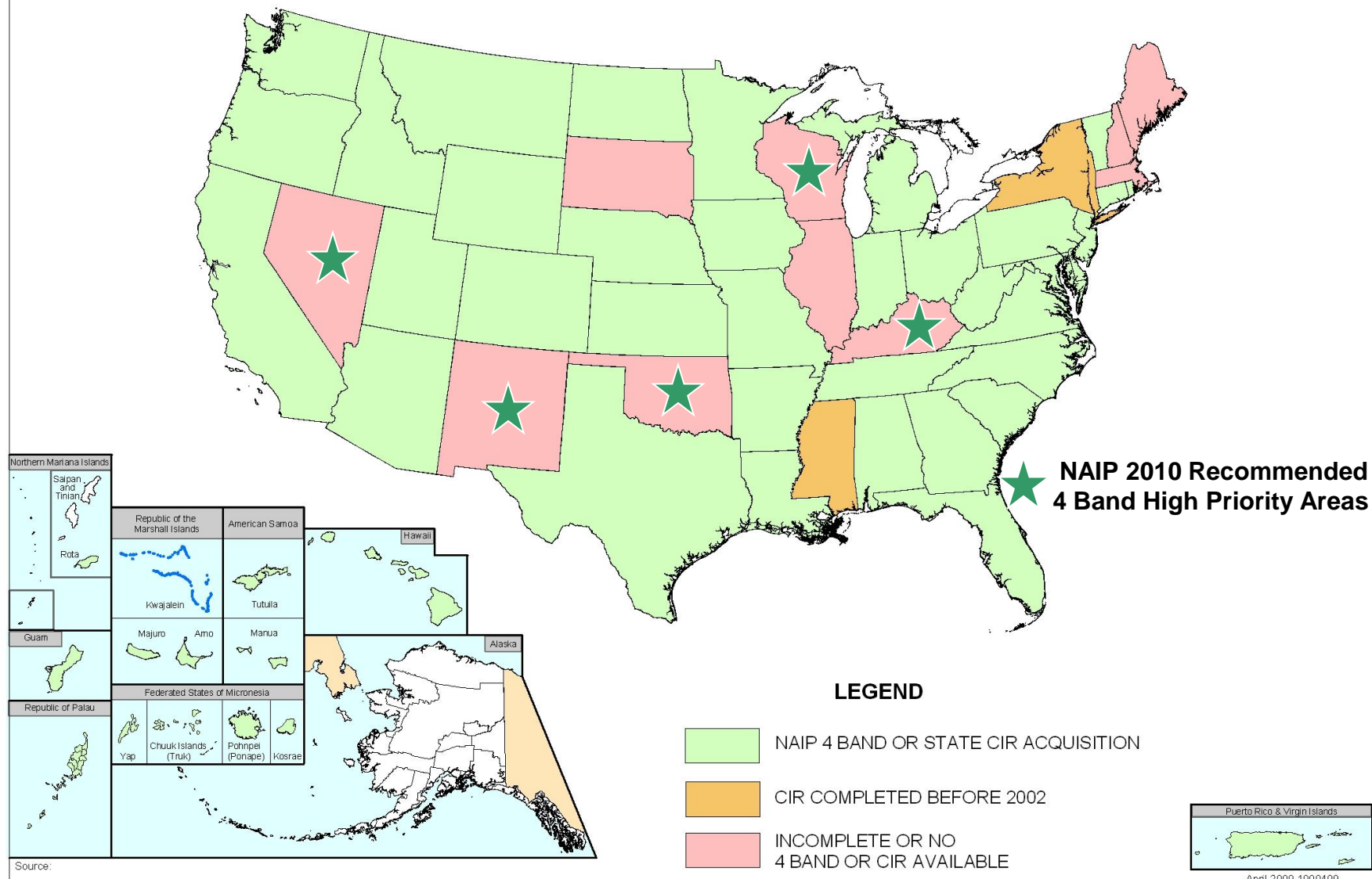
NCGC DELIVERY STATUS FOR NAIP 2008 & 2009

December 4, 2009



FOUR BAND and CIR ORTHOIMAGERY AVAILABILITY

December 2009



NRCS NAIP Funding

2003 = 2,500,000

2004 = 3,000,000

2005 = 2,600,000

2006 = 2,800,000

2007 = 500,000*

2008 = 500,000*

2009 = 1,750,000*

*** Plus addition funding via state partnerships
for NAIP Buy-Ups (4 Band)**

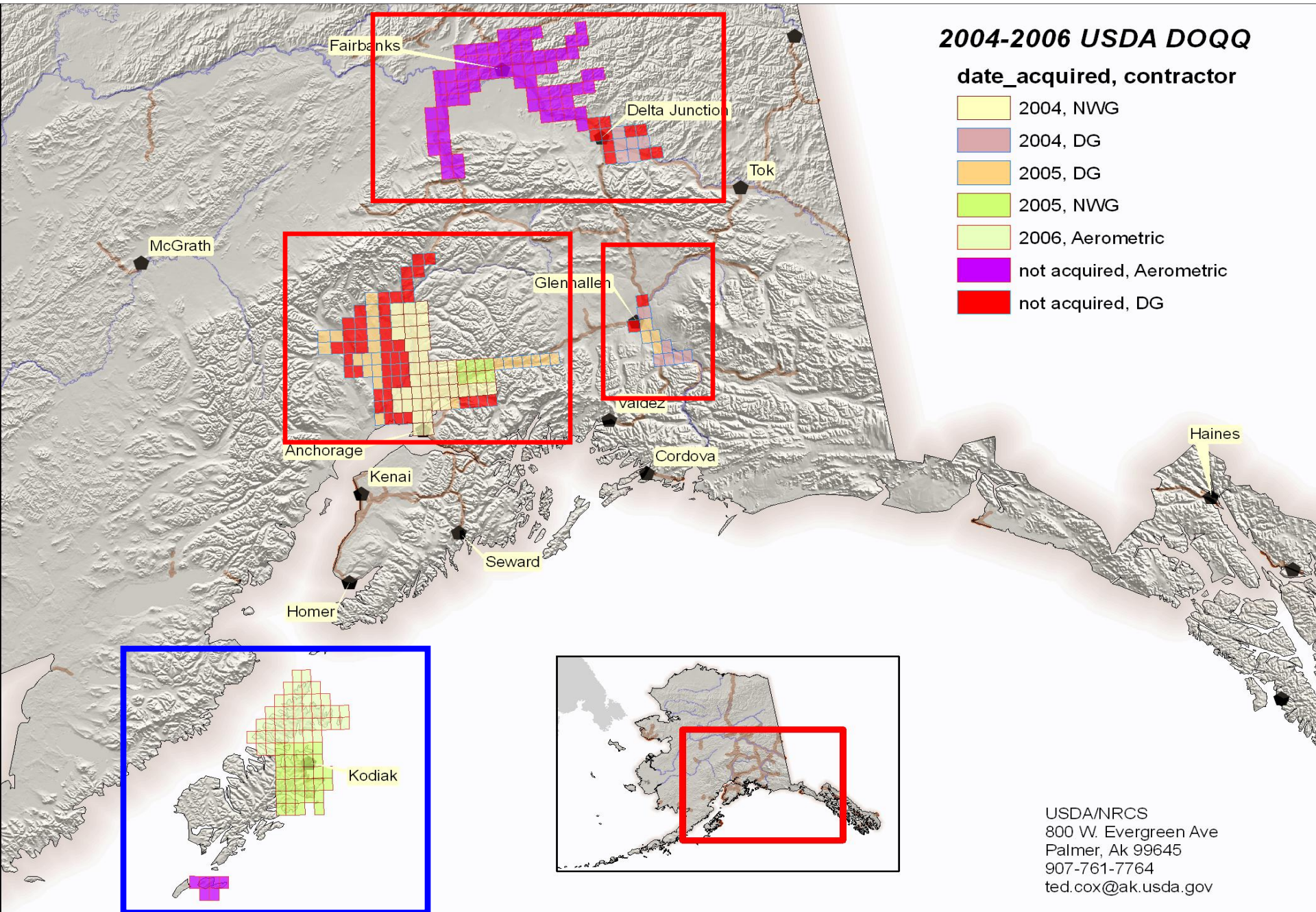
**•\$1.75M NRCS contribution for NAIP funded by the Resources Inventory
and Assessment Division (RIAD).**

**•Funding for the 2010 and 2011 NAIP acquisitions will continue to be
funded by RIAD.**

Alaska Update



USDA-NRCS Digital Orthoimagery Acquisition in Alaska



Alaska, USFS – Chugach National Forest, Russian River Area



2009/2010 Puerto Rico and Virgin Islands Acquisition Plan?

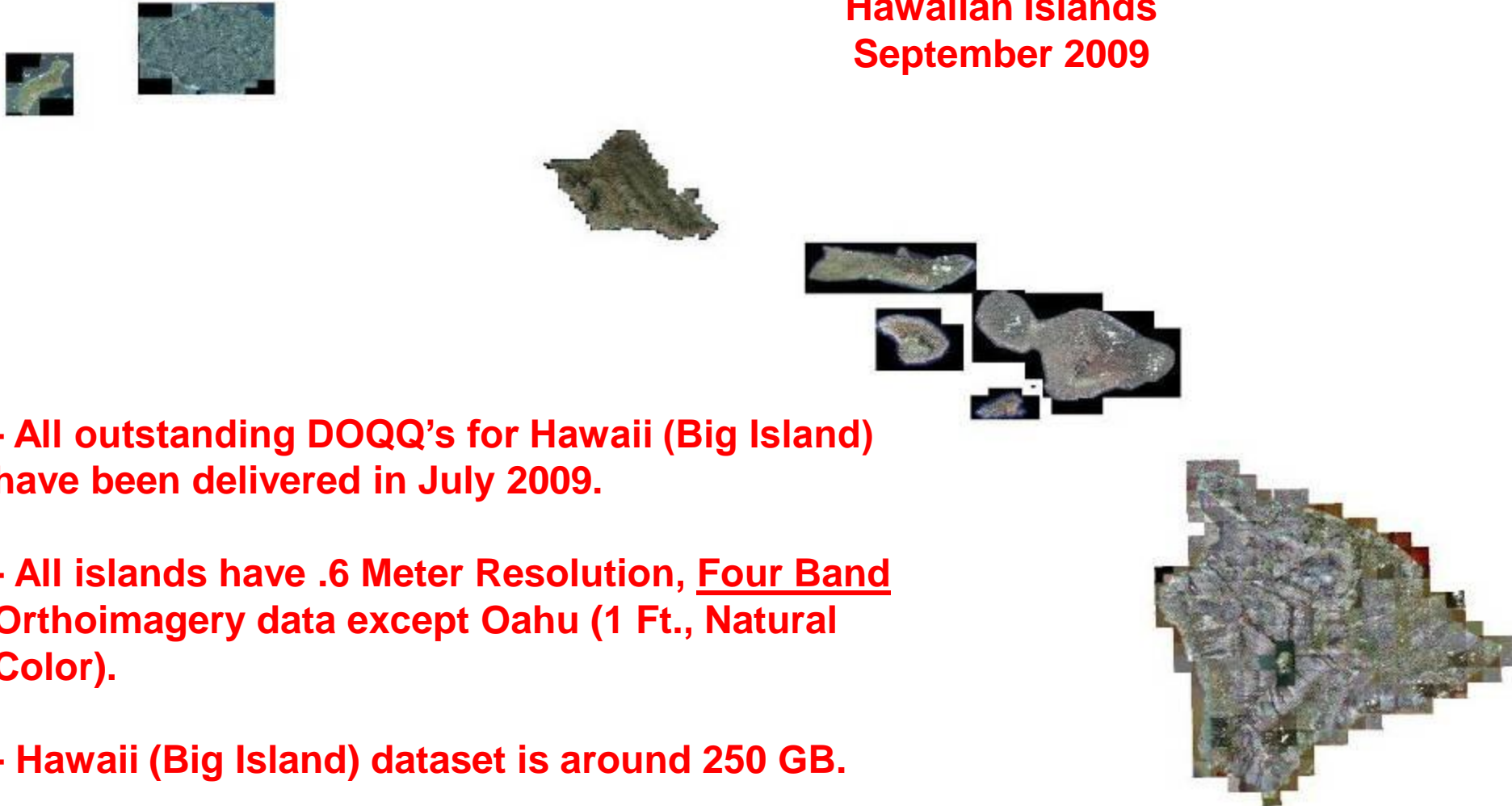


- US Army Corp of Engineers would like to acquire 1 foot, 3 or 4 Band Orthoimagery for Puerto Rico and possible US Virgin Islands.
- Best acquisition periods is late fall (Oct-Dec) and early spring (March-April)
- Funding is an issue. Currently committed funding (from James Suggs, USACOE on 10/27)
 - 300 K NGA
 - 250 K USGS
 - 150 K USACOE
 - 20 K USFS
 - 100 K USDA-NRCS
 - 50 K PR-CRIM
 - 870 K Total
- This is enough to acquire Puerto Rico with 3 Band and maybe 4 Band?
- Estimated 800-900K to acquire Puerto Rico and 200-300K to acquire USVI



New Hawaii/Pacific Basin Acquisition Activity

Hawaiian Islands September 2009



- All outstanding DOQQ's for Hawaii (Big Island) have been delivered in July 2009.
- All islands have .6 Meter Resolution, Four Band Orthoimagery data except Oahu (1 Ft., Natural Color).
- Hawaii (Big Island) dataset is around 250 GB.
- Leica GeoSystems is working with the USDA-NRCS to produce a tone matched mosaic using new mosaic technology.



Geospatial

+ United States Department of Agriculture + + Service Center Initiative +

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+ Natural Resources Conservation Service +
+ Farm Service Agency +
+ Rural Development +

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SYSTEM STATUS

9/15/2009 11:17:22 AM MST:
NAIP and CLU products are now available in a very limited capacity. Please note that orders will queue up and may run slowly.

9/15/2009 11:14:31 AM MST:
IMPORTANT NOTE: Many NAIP orders placed in the last several days resulted in corrupted zip files. Please contact us with your order number(s) that need to be corrected under the subject heading "corrupted zip" and we will arrange for you to reorder them without the duplicate order block.

Data Gateway





- NRCS with the help of the USFS upgraded all USDA acquired DigitalGlobe QB2 Orthoimagery for Hawaii and the Pacific Basin to Enterprise Premium via USDA-FAS!
- USGS and State of Hawaii have agreed that the Enterprise Premium License will meet their agency application requirements.
- Allows USDA to post compressed Orthoimagery mosaics of all Hawaii/Pacific Basin QuickBird data to the Public on the USDA Gateway. All users (Federal Civil/Defense, State, Local, Educational, General Public) except for profit companies have access to these datasets.
- NRCS will work with USGS-EDC for placing the Enterprise Premium datasets into Seamless Server. NRCS-NCGC will deliver to USGS-EDC a complete dataset for Hawaii by early 2010!

Hawaii/Pacific Basin Acquisitions

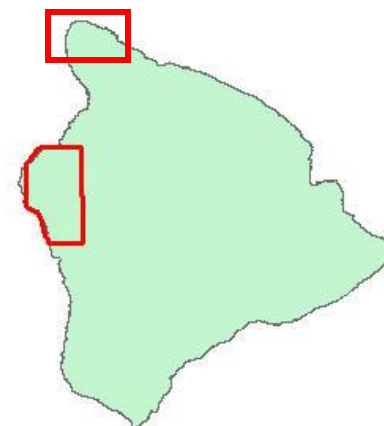
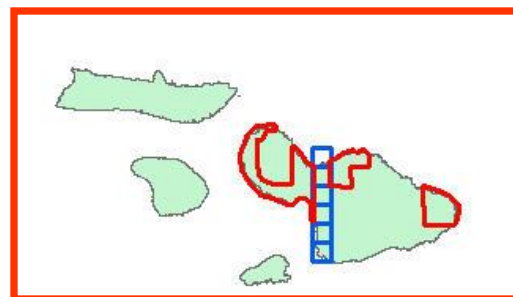
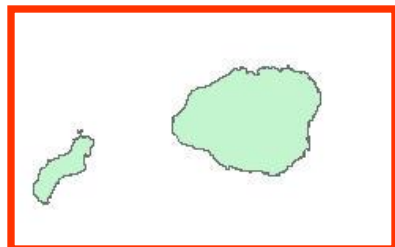
USDA-NRCS Orthoimagery Update
Hawaii, May 2009
DigitalGlobe QuickBird

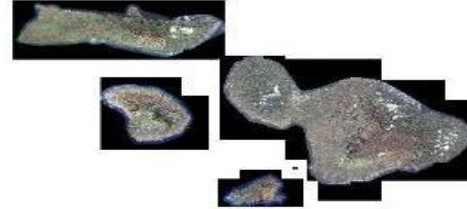
Help from USGS in 2010?

-  Updated Orthoimagery Complete
-  Updated Orthoimagery Ordered

All USDA Orthoimagery for the Hawaiian Islands is from DigitalGlobe QuickBird Satellite except Oahu (Urban 133 from NGA/USGS).
DigitalGlobe Orthoimagery acquired is 4 Band, 16 Bit and .60 Meter GSD.

Most USDA Orthoimagery is from 2003-2005.
Most new Orthoimagery acquired is from 2008-2009.

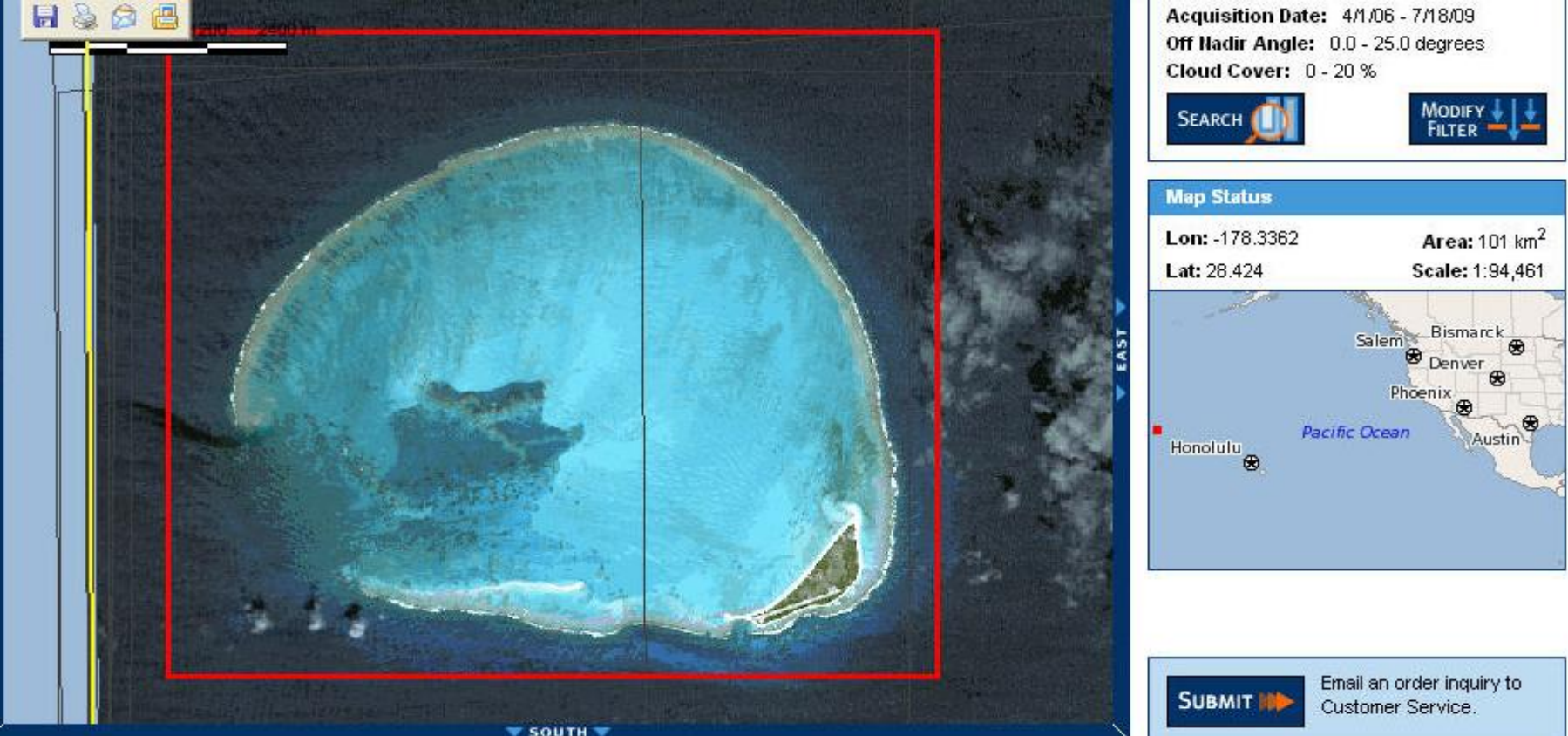




NRCS-NCGC Web Map Service October 2009

**NCGC has developed WMS's for Hawaii, Pacific Basin, Puerto Rico,
Virgin Islands, Alaska and many other services**

Can USFS access WMS's at USDA?



- ALL North Western Hawaiian Islands including shallow water reef areas.
 - American Samoa – Tutuila (Pre/Post) Disaster, Rose, Swain etc..
 - American Samoa – Rose Atoll, Swain Island
 - Federated States of Micronesia (Chuuk Region)
-
- All data ordered, DG-QB2, Orthoimagery, Ortho-Ready, 4 Band, 16 bit, Enterprise Premium License.
 - NRCS ordered at extra cost both Orthoimagery (USDA) and Ortho-Ready (NOAA) products because it was best for NDOP as a whole and in support of IFTN.



Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013



OCT 06 2009

SUBJECT: Natural Resources Conservation Service's Commitment to Coral Reefs

TO: Federal Executives (see attached list)

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) is committed to supporting the U.S. Coral Reef Task Force (USCRTF) mission of preserving and protecting coral reefs. For this reason, NRCS is committing up to \$250,000 in seed funding to develop partnerships with non-governmental organizations (NGOs) for implementation of a complete watershed plan that will help restore natural resources in the Guanica watershed in Puerto Rico. My hope is that other USCRTF Federal members will match this with similar commitments.

Federal Executives

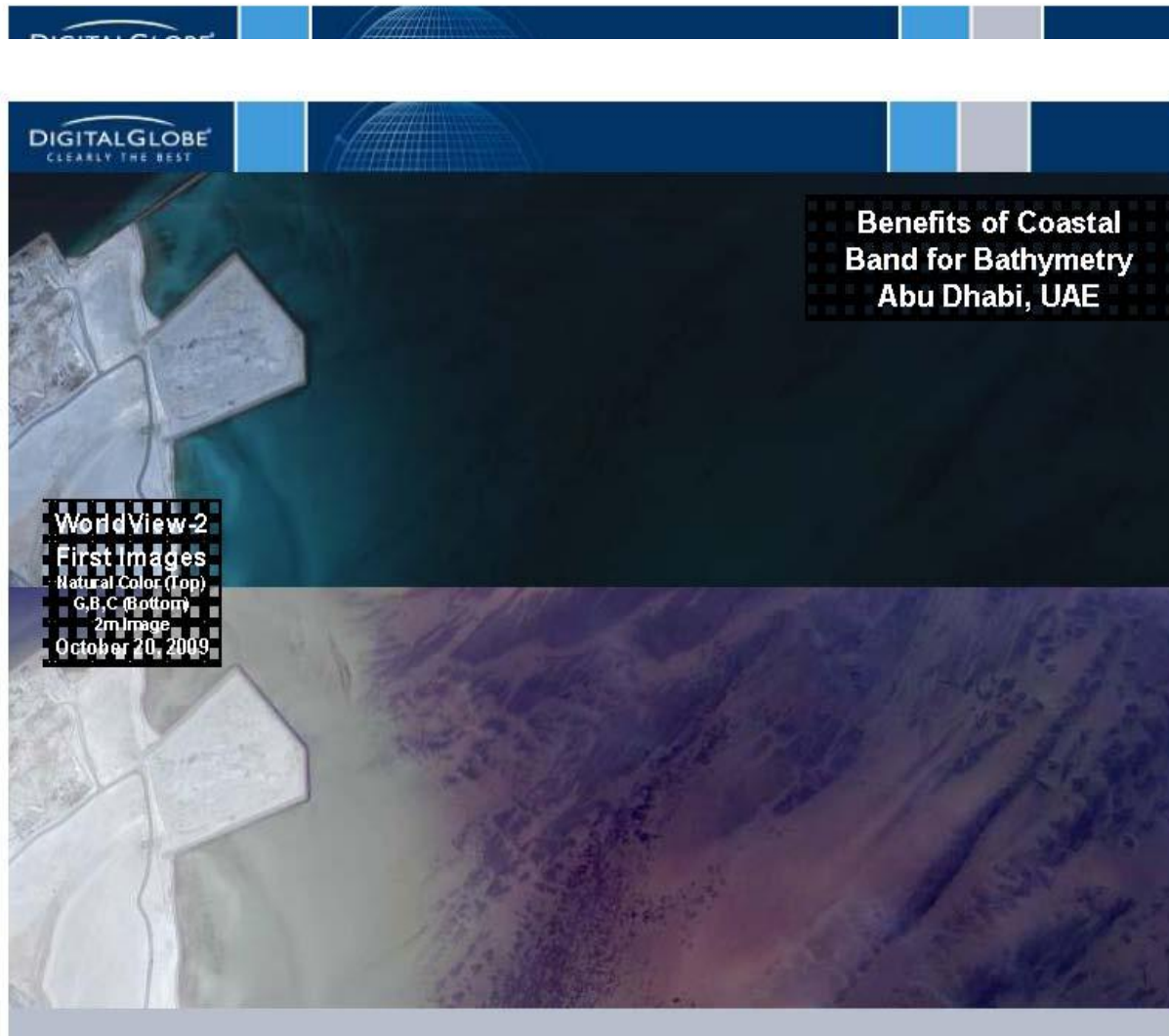
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Thank you for your consideration and commitment to supporting the USCRTF efforts for coral reef conservation.

Dave White
Chief

Attachment

- NRCS Hawaii/Pacific Basin work includes, Food and Security Act, Soil Survey, active and funding member of US Coral Reef Task Force.



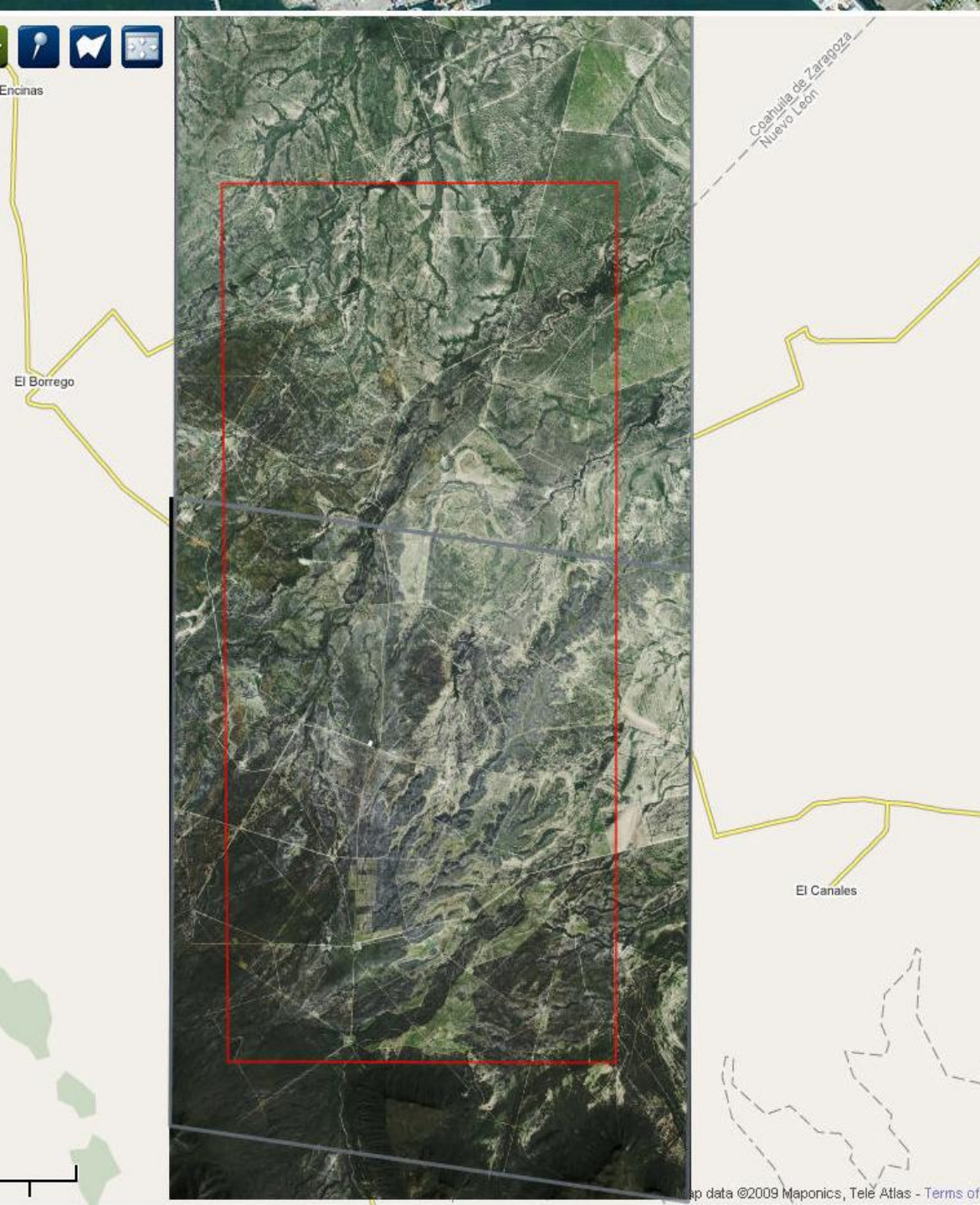
DG - WorldView 2

- NRCS has submitted several tasking AOI's to DG for potential testing of new WorldView-2 Satellite.
- NCGC is working with Soil Scientists on a Pilot Test Site to evaluate WV-2 for Remote Sensing Analysis.

Potential Sites:

- Riverside CA.
- Great Salt Lake - Salt Marsh Area
- Various areas in the Pacific Basin

At future USDA Imagery Meetings we should discuss alternate Imagery acquisition vehicles such as the Clear30 Initiative with DigitalGlobe.



NRCS – Pilot International Soil Survey Mexico

- NRCS via USDA-FAS acquired GeoEye Orthoimagery for a Soil Survey area in Mexico.
- Location is about 100 miles West of Laredo, Texas.
- GeoEye Orthoimagery will be used in Web Soil Survey.

Hawaii – Pacific Basin Imagery / IfSAR Acquisition Cost (December 2009)

New Funding Contributions for Fiscal Year 2009

USDA - NRCS	110,000
USDA – FS	80,000
Total USDA Contributions	\$ 190,000*

Total Funding Contributions for Fiscal Year 2005-2009

USDA - NRCS	632,341
USDA - FSA	115,000
USDA – FS	152,000
Total Contributions	\$ 899,341*

*Funding used at USDA-FAS and USGS-MCMC.

** USGS Tentative for FY 2010 has committed 150K

Hawaii – Pacific Basin Acquisitions Costs 05/2009 – 10/2009

- Digital Globe License Upgrades	50,000
- Hawaii (Big Island) and Maui Upgrades	29,755
- North Western Hawaiian Islands, Federated States of Micronesia, Am. Samoa etc..	65,100
(Total)	144,855

NRCS FY 2009 Orthoimagery Activities

217,000	Alaska
100,000	Puerto Rico
110,000	Hawaii/Pacific Basin
427,000	Total

FY 2009 Total Orthoimagery and Digital Elevation Acquisitions

7,456,000	NRP/WRP/Digital Camera Pilot
1,750,000	NAIP
427,000	Alaska, Hawaii and Pacific Basin
927,000	Digital Elevation**
10,560,000	Total*

* Funded via NHQ or NCGC. Additional Orthoimagery/Digital Elevations acquisitions are completed by NRCS at the State Office Level.

** Digital Elevation funded via USGS for Alaska, Kansas etc..

NRCS would like to say “Thank You” to many who contributed to Imagery successes this year in USDA, but especially to...

- FSA-APFO**
- Shirley Hall**
- USDA-FAS**

And last but not least.....

USFS

Even Bill Belton!





End of Presentation

DigitalGlobe Clear30 Program USA Block Prioritization



UltraCam G Data Sample



Clear30 Program Collection Spec

Imagery is collected by 1deg x 1deg cell (~100km x ~100km) per day, per plane (~3861 mi² per 1 deg cell)

Environmental Condition	HV Areas	Standard Blocks	Remote Blocks	Remarks
Clouds	0	0	< 1%	
Cloud Shadows	0	< 2%	< 3%	Must not be black and detail is clearly visible
Haze	0	< 2%	< 3%	Must not be white and detail is clearly visible
Smoke (opaque)	0	0	< 1%	detail is visible
Minimum Sun Angle	30 degrees	20 degrees	20 degrees	May be reviewed as necessary
Standing Water (flood, rain)	no	no	< 1%	
Snow and Ice	Permanent snow only	Above timber line	< 3%	Exceptions for Ski areas, etc. by review
Leaf-Off	Required in US	Desired in US	NA	Exceptions may be made by review

Clear30 Program Accuracy Spec

Class of Block	Radial accuracy @ 95% confidence	Equivalent RMSE in X and Y
Dense Urban Core Area	10 ft	4 ft
High-Value Area	10ft and 15 ft	4ft and 6 ft
High-Value Block	10ft and 15 ft	4ft and 6 ft
Standard Block	15 ft	6 ft
Remote Block	15 and 20 ft	6 and 8 ft

At least 10% of the Clear30 Program area will meet the 10ft radial accuracy standard at 95%, and will include all of the Dense Urban Core, and as much High Value Areas as possible until such time as 10% of the total land area is reached, or all of the HV areas have been utilized.

Clear30 Collection Plan

- UltraCam G Imagery to be collected and refreshed in three phases – Intent is also for data delivery/availability to be in approximately equal lots over the CY quarters:

- **Phase I (base layer):** approximately 10M km² (8M km² CONUS and 2M km² Western Europe) collected within 30 months of the start of first collections.

2010: 2.7 to 3.3M km²

2011: 4.5 to 5.5M km²

2012: 1.8 to 2.2M km²

- **Phase II (refresh of key areas – to be defined):** approximately 6M km² collected over 30 months.

2012: 500K to 1M km²

2013: 2.7 to 3.3M km²

2014: 1.8 to 2.2M km²

- **Phase III** – 2 year optional extension.

Clear30 Scheduling

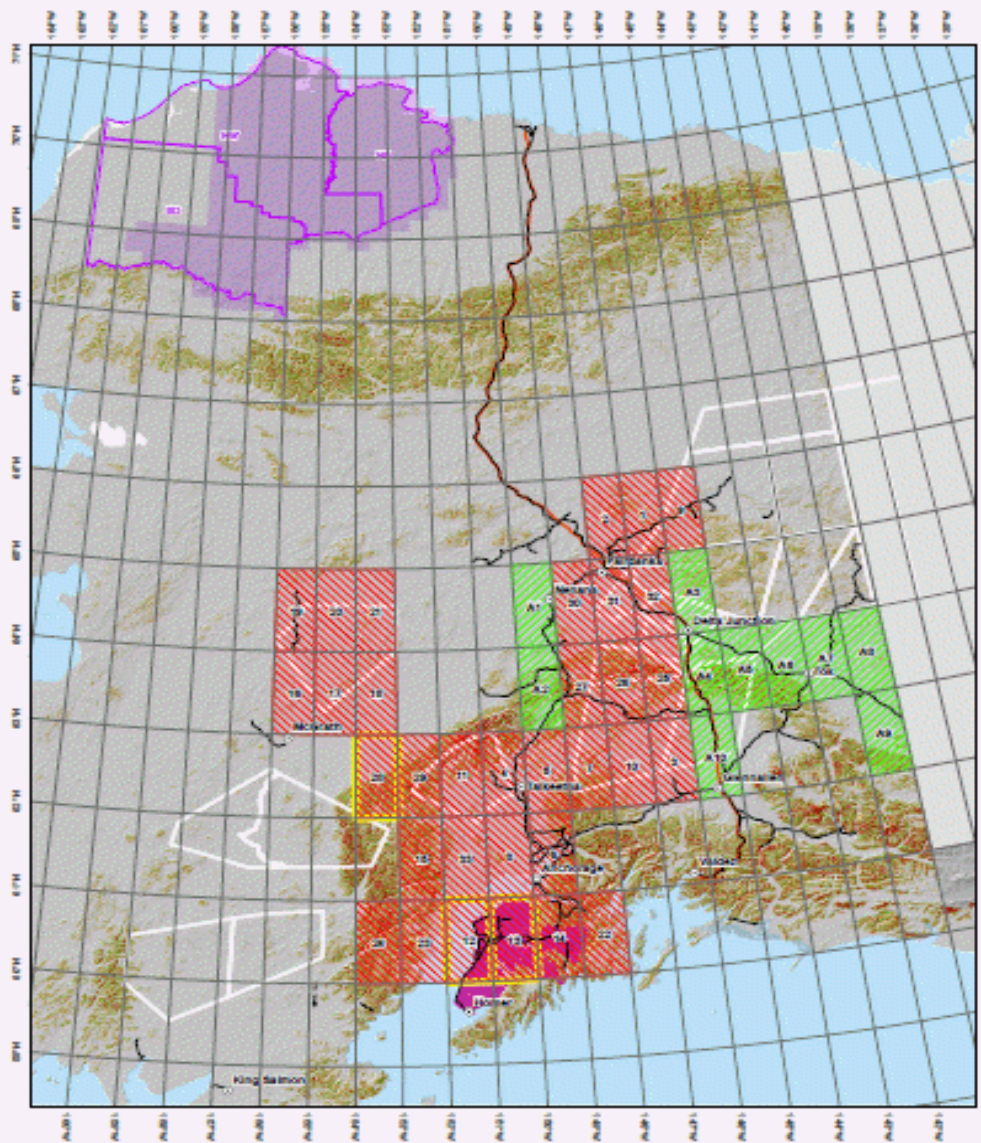
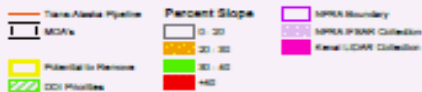
- Intend to Collect most High Value and Standard blocks in Year 1 (2010).
- Draft 2010 data acquisition plan completed by end of Nov. 2009 to solicit input (NDOP, Federal/State agency customers); final plan by Jan 1, 2010.
- Program executors may change the designation of HV or S blocks based upon input, provided the HV areas do not exceed 10% of total area and S blocks do not exceed 40% of all blocks.
- A quarterly review will be scheduled approximately 30 days prior to the quarter to adjust for climate, technical, or business related changes.

Region	Number of Blocks	# of Remote Blocks	# of Standard Blocks	# of HighValue Blocks	Max. Total HighValue area	Total Land area in km2	Total area incl. Water (est. km2)
USA lower 48	917	515	128	274	780,000	7,700,000	8,100,000
Western EU	415	235	106	74	200,000	2,100,000	2,400,000
Total	1,332	750	234	348	980,000	9,800,000	10,500,000

NGA Priorities Percent Slope (300 Meter DEM)

May 27, 2009

1:4,500,000



Alaska Elevation Acquisition

- NRCS supports the DEM acquisition lead by NGA/DOD/USGS.
- NRCS Management Leaders (RIAD Division and above!) supports DEM acquisition that result in Orthoimagery meeting IFTN Technical Specifications.
- NRCS (NHQ/NCGC) will not participate in funding DEM acquisitions that do not meet IFTN Technical Specifications to generate Orthoimagery!
- NRCS managed to commit 100K in FY 2009 funding despite not having any funding in the budget.
- NRCS still is planning phase to funded future DEM acquisitions.